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ABSTRACT

Restraint theory assumes that restrained eating is functionally equivalent to dieting and that "restraint" accounts for the eating behavior of overweight individuals. This study evaluated both of these assumptions. In the first part of the study, normal weight women were divided into groups of unrestrained nondieters, restrained nondieters, and restrained dieters. Subjects' food consumption in a standard forced paradigm (Herman and Mack, 1975) was tested. A significant Restraint/Dieting x Preload interaction was found. While restrained dieters ate much more in the no preload than in the preload condition, both nondieting groups showed the opposite tendency. In the second part of the study, the hypothesis that dieting accounts for the eating behavior of overweight individuals was tested. The normal weight subjects described above were reclassified as dieters or nondieters (ignoring restraint level) and groups of dieting and nondieting overweight individuals were run through the preload manipulation (creating a Dieting x Preload x Weight factorial). A three-way interaction was found, indicating that dieting had different effects on eating regulation in normal weight and overweight subjects. Among normal weight subjects, nonpreloaded dieters overate; among overweight subjects, nonpreloaded nondieters overate. (Author)

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Is Restraint a Model of Binge Eating and Obesity?

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Summary

Restraint theory assumes that restrained eating is functionally equivalent to dieting and that "restraint" accounts for the eating behavior of overweight individuals. The present two-part study evaluated both of these assumptions. In the first part of the study, normal weight women were divided into groups of unrestrained nondieters, restrained nondieters, and restrained dieters. Subjects' food consumption in a standard forced paradigm (Herman & Mack, 1975) was tested. A significant Restraint/Dieting x Preload interaction was found (see Figure 1). While restrained dieters ate much more in the no preload than in the preload condition, both nondieting groups showed the opposite tendency.

In the second part of this study, the hypothesis that dieting accounts for the eating behavior of overweight individuals was tested. The normal weight subjects described above were reclassified as dieters or nondieters (ignoring restraint level) and groups of dieting and nondieting overweight individuals were run through the preload manipulation (creating a Dieting x Preload x Weight factorial). A three-way interaction was found (see Figure 2), indicating that dieting had different effects on eating regulation in normal weight and overweight subjects. Among normal weight subjects, nonpreloaded dieters overate; among overweight subjects, nonpreloaded nondieters overate.

Method

In the first part of this two-part study, normal weight female college students took the Restraint Scale (Herman & Polivy, 1980) and indicated whether they were currently on a diet to lose weight. A median split (median = 15) of Restraint scores created groups of unrestrained and restrained eaters. The restrained group was then subdivided into those who did and did not report that they were dieting to lose weight. Thus three groups were formed: unrestrained nondieters (N = 26), restrained nondieters (N = 26), and restrained dieters (N = 20). Restrained nondieters and restrained dieters were matched on Restraint scores so that the difference in dieting status would not be confounded by differences in restraint.

Subjects were run through the standard forced preload paradigm used by Herman and Mack (1975), Ruderman (Ruderman & Christensen, 1983) and others. Subjects were randomly assigned to drink either zero or two (7.5 ounce) milkshakes prior to engaging in an ice cream "taste test". The dependent measure was amount of ice cream eaten during the taste test.

In the second part of this study, the effects on eating of dieting, preloading and weight was examined. Normal weight subjects from the first part of the study were reclassified simply as dieters or nondieters, i.e., the unrestrained and restrained nondieters were collapsed into one nondieting group. Groups of overweight nondieters (N = 19) and overweight dieters (N = 25) were also run through the preload manipulation, creating

a Dieting x Preload x Weight factorial.

Results

For the first part of the study (involving only normal weight subjects), a Restraint/Dieting x Preload interaction emerged, $F(2, 66) = 4.35$, $p < .05$ (see Figure 1). Simple effects tests indicated that restrained dieters ate more ice cream without the preload than with one ($p < .05$) and that restrained dieters in the no preload condition ate more than both unrestrained nondieters and restrained nondieters in the no preload condition (both $ps < .01$).

For the second part of the study (involving all subjects) a Dieting x Preload x Weight interaction emerged, $F(1, 111) = 6.48$, $p < .05$ (see Figure 2). Among normal weight subjects, dieters ate more in the no preload than in the preload condition ($p < .01$) and dieters ate more than nondieters in the no preload condition ($p < .001$). Among overweight subjects, nonpreloaded subjects ate more than preloaded subjects ($p = .05$), and nondieters ate more than dieters ($p < .05$; an effect clearly due to the overeating of nonpreloaded nondieting subjects - see lower half of Figure 2).

Conclusions

This study calls into question several assumptions of restraint theory. First, data from the subject solicitation phase of our study indicated that only about one-third of normal weight, restrained eaters are on diets to lose weight. Thus the interchangeable use of the terms "restrained eater" and "dieter"

appears to be inappropriate. Second, restrained eaters who are dieting respond quite differently to a preload manipulation than restrained eaters who are not dieting. This finding suggests that both restrained eating and dieting are related to overeating, but for different reasons. It also suggests that the boundary model of eating (Herman & Polivy, 1984) may not adequately account for the eating behavior of either restrained eaters or actual dieters. Third, while restraint is correlated with binge eating (Polivy & Herman, 1985), the results of this study, combined with clinical findings on the genesis on binge eating (Polivy & Herman, 1985), suggest that actual dieting, more than "restraint", may be responsible for producing the binge eating seen in eating disorders. Fourth, the results of the present study reinforce Ruderman and Christensen's conclusion that restraint is not a model for understanding the eating behavior of obese individuals. However, since research indicates that weight loss does increase vulnerability to overeating among the obese (Rodin, Moskowitz & Bray, 1976; Wardle & Beales, 1988), further research is needed to determine why dieting behavior among the obese is associated with reduced eating in laboratory settings and with increased eating in clinical settings.

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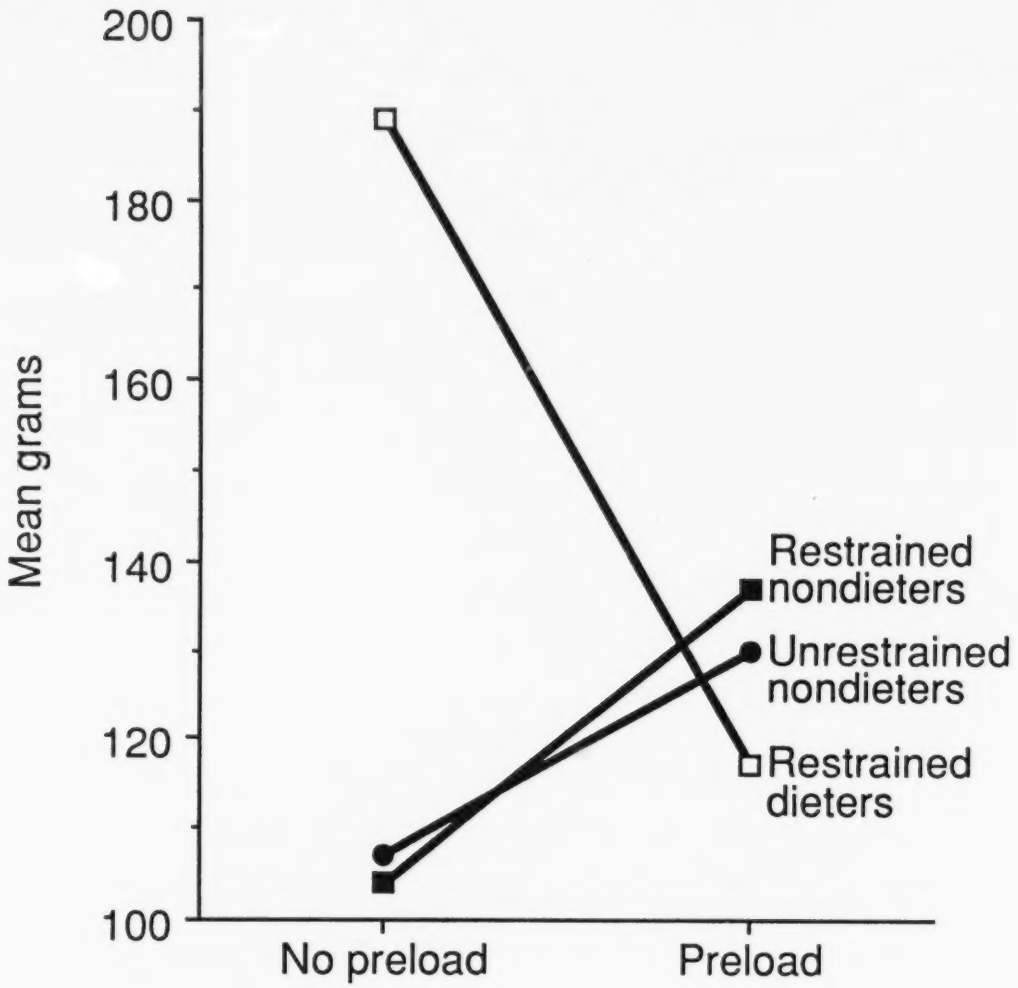

Figure 1. Effect of Restraint/Dieting and Preload status on ice cream consumption.

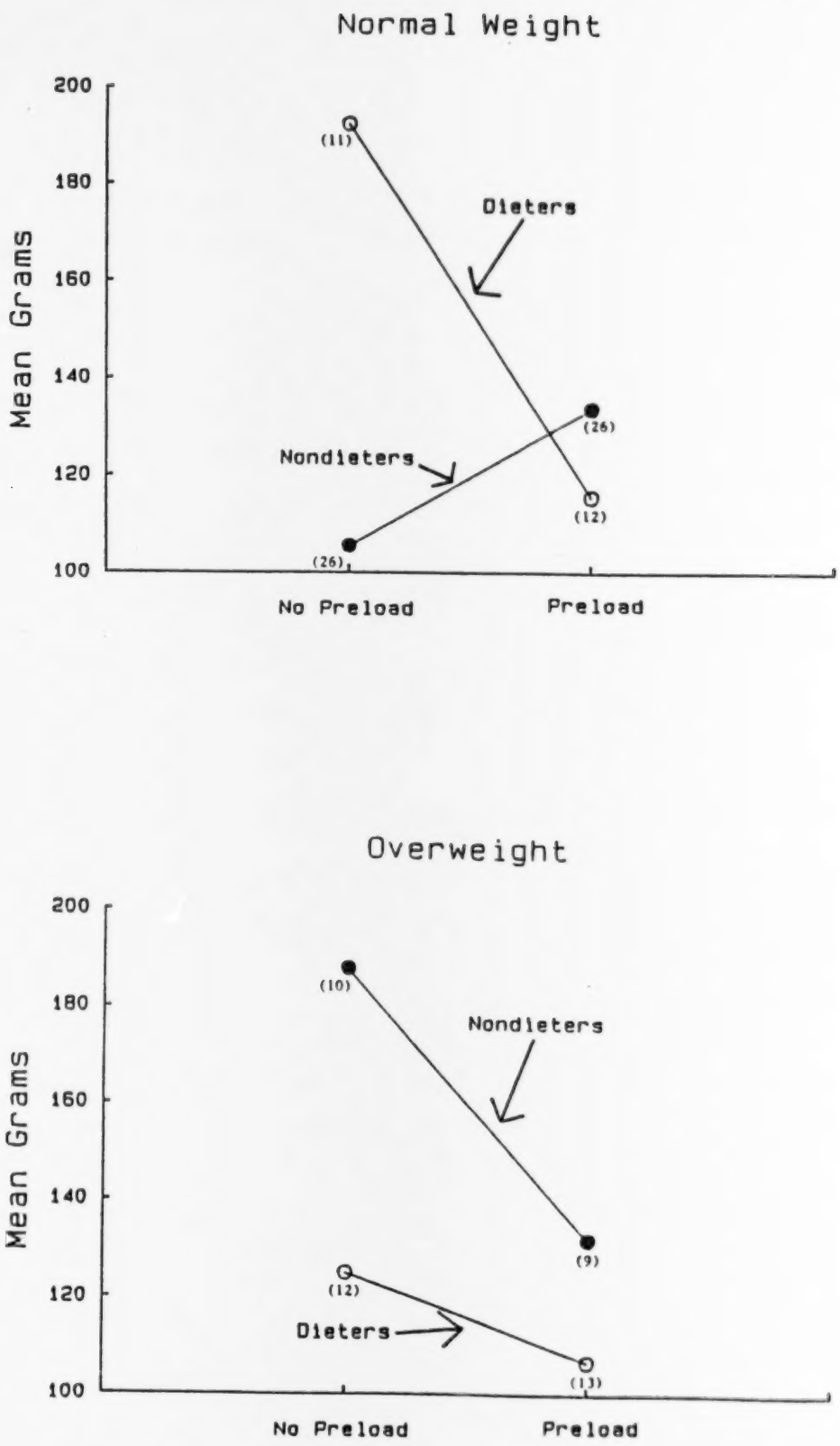

Figure 2. Effect of Dieting and Preload status on ice cream consumption as a function of weight.